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1. A method of characterizing intestinal permeability (IP) in a subject,

comprising determining the amount of Clostridiales and/or Bifidobacteriales bacteria in a sample obtained from a subject,

wherein when the amount of Clostridiales and/or Bifidobacteriales bacteria is about 5% or less by relative abundance of the total amount of bacteria in the sample, the IP of the subject is characterized as high, and

wherein when the amount of Clostridiales and/or Bifidobacteriales bacteria is more than about 5% by relative abundance of the total amount of bacteria in the sample, the IP of the subject is characterized as low.

2. The method of claim **1**, wherein the subject is a preterm infant.

3. The method of claim **2**, wherein the preterm infant is an infant of less than 37 weeks of gestational age.

4. The method of claim **1**, wherein the sample is a stool sample.

5. The method of claim **1**, wherein the amount of bacteria in the sample is based on the relative abundance of one or more selected genes corresponding to the bacteria in the sample.

6. The method of claim **1**, wherein the amount of bacteria in the sample is based on the relative abundance of a 16S rRNA gene variable region of the bacteria in the sample.

7. The method of claim **1**, wherein the amount of bacteria in the sample is based on the relative abundance of the V3-V4 variable region of a 16S rRNA gene of the bacteria in the sample.

8. A method of treating or preventing high intestinal permeability in a subject comprising:

(a) determining the amount of Clostridiales and/or Bifidobacteriales bacteria in a sample obtained from a subject, and administering a therapeutically effective amount of a treatment or preventive agent for high intestinal permeability to the subject when the amount of Clostridiales and/or Bifidobacteriales bacteria in the sample is about 5% or less by relative abundance of the total amount of bacteria;

(b) determining the amount of Clostridiales and/or Bifidobacteriales bacteria in a sample obtained from a subject, and administering a therapeutically effective amount of a treatment or preventive agent for high intestinal permeability to the subject when the amount of Clostridiales and/or Bifidobacteriales bacteria is within a pre-established range of amounts of Clostridiales and/or Bifidobacteriales bacteria associated with high intestinal permeability; or

(c) determining the amount of Clostridiales and/or Bifidobacteriales bacteria in samples obtained from a subject at two or more time points and administering a therapeutically effective amount of a treatment or preventive agent for high intestinal permeability to the subject when the amount of Clostridiales and/or Bifidobacteriales bacteria in the samples decreases over time.

9. The method of claim **8**, wherein the subject is a preterm infant.

10. The method of claim **9**, wherein the preterm infant is an infant of less than 37 weeks of gestational age.

11. The method of claim **8**, wherein the sample is a stool sample.

12. The method of claim **8**, wherein a decrease in IP of at least 10% compared with a subject that does not receive the treatment or preventive agent for high intestinal permeability is achieved.

13. The method of claim **8**, wherein the amount of bacteria in the sample is based on the relative abundance of one or more selected genes corresponding to the bacteria in the sample.

14. The method of claim **8**, wherein the amount of bacteria in the sample is based on the relative abundance of a 16S rRNA gene variable region of the bacteria in the sample.

15. The method of claim **8**, wherein the amount of bacteria in the sample is based on the relative abundance of the V3-V4 variable region of a 16S rRNA gene of the bacteria in the sample.

16. The method of claim **8**, wherein when samples are obtained from a subject at two or more time points in (c), the time points are separated by at least 7 days plus or minus 1 to 2 days.

17. The method of claim **8**, wherein the decrease in the amount of Clostridiales and/or Bifidobacteriales bacteria in the samples in over time in (c) is a decrease of at least about 10%.

18. The method of claim **8**, wherein the treatment is one or more of live biotherapeutic product (LBP), antibiotics, prebiotics, synbiotics, and intestinal environment parameters modifying small molecules.

19. The method of claim **8**, wherein the preventive agent is one or more of LBP, antibiotics, prebiotics, synbiotics, and intestinal environment parameters modifying small molecules.

20. The method of claim **8**, further comprising administering breast milk to the subject or reducing exposure of the subject to antibiotics, or both.

21. A method of identifying a subject at elevated risk for developing necrotizing enterocolitis (NEC) comprising:

(a) determining the amount of Clostridiales and/or Bifidobacteriales bacteria in a sample obtained from a subject, wherein when the amount of Clostridiales and/or Bifidobacteriales bacteria is about 5% or less by relative abundance of the total amount of bacteria in the sample, the subject is identified as at elevated risk for developing NEC;

(b) determining the amount of Clostridiales and/or Bifidobacteriales bacteria in a sample obtained from a subject, and comparing the amount to pre-established ranges of amounts of Clostridiales and/or Bifidobacte-